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EXAMINER
WEI, ZHENG

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 May 2008</u>.

2a)☒ This action is FINAL.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   This office action is in response to the amendment filed on 05/14/2008.

2.   Claims 1 and 14 have been amended.

3.   The 35 U.S.C. § 101 rejection to claims 14-20 is withdrawn in view of the

      Applicants' amendment.

4.   The 35 U.S.C. 112 second paragraph rejection to claims 1-13 is withdrawn in

      view of the Applicant's amendment.

5.   Claims 1-22 remain pending and have been examined.

Response to Arguments

6.   Applicant's arguments filed on 05/14/2008, in particular on pages 7-9, have been

      fully considered but they are not persuasive. For example:

- At page 7, second paragraph, the Applicants argue that Demsey fails to teach

  or suggest executing a process within an isolation environment including an

  application isolation layer and a user isolation layer, each of which may

  provide a virtualized instance of one or more native resources provided by an

  operating system. In response to applicant's argument that the references fail

  to show certain features of applicant's invention, it is noted that the features

  upon which applicant relies (i.e., "each of which may provide a virtualized

  instance of one or more native resources provided by an operating system")

are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It also should be noted the claims language only recites the term "isolation environment", "application isolation layer" and "user isolation layer" without further disclosing what the isolation environment and isolation layers are, how they perform their functions. Therefore, the claim language does not further limit the definitions of isolation environment and its components/layers. As Demsey disclosed at Fig 1 and Fig 3, item 100 is a isolated computer environment which unitize a virtual machine 104 having an architecture to <u>run on different platforms</u> (see for example, col.5:40-50). Moreover, Demsey also discloses the isolated environment including an application isolation layer (Managed code portion) and user isolation layer(User code) (see for example, Fig.1, item 102 application (user code) and item 104, "Virtual Machine (VM) – Managed Code Portion). Therefore, Demsey does disclose the limitation as the Applicants argued.

- At page 7, second paragraph, the Applicants further argue that the map in Demsey is not used in determining that a remap rule is associated with a virtual resource name. Therefore, Demsey does not require use of a virtual name for the native resource or remapping the virtual name to a literal name for the native resource.

  However, the Examiner respectfully disagrees.

It should be noted that the claim language (steps) about determining a rule

action of remap does not disclose any interrelation with other steps. Therefore,

it does not further limit about forming a literal name for the native resource

relates to the determined rule action of remap. As Demsey disclosed at col.4,

lines 11-39, the map (handle table) is checked to decide availability of

allocation when the executing application requests a native resource.

Therefore the rule action of remap is used to determine the rule/condition to

select allocation routine or collection routine (see for example, col.4, lines 11-

39).

- At page 8, second paragraph, the Applicants submit that the second reference

  Goldberg is a hardware solution and one of ordinary skill in the art would not

  consider hardware resource to be operating system native resource. Because

  the definition of operation system native resource is only including a file

  system and a registry database.

  However, it should be noted that the term "operating system native resource" is

  not in the claim. The cited claim language "native resource" does not limit the

  native resource as the "operating system native resource". Therefore, it can be

  reasonable interpreted as any computer native resource can be allocated by

  the operating system. Moreover, the cited portion of Goldberg is just a method

  for establishing correspondence (mapping) between the real process names of

  the processes and the virtual resource name. Said method are implemented in

  hardware as disclosed by Goldberg, it also would have been obvious to one

having ordinary skill in the art at the time the invention was made to implement

by a software solution,

- At page 9, second paragraph, the Applicants point out that Schmidt fails to

  teach or suggest executing a process within an isolation environment as

  recited in the pending claims because Schmidt lacks a user isolation layer,

  describing on a single layer isolating access to file systems and hardware

  resource and Schmidt teaches away form allowing multiple users to access a

  single capsule. In response to applicant's argument that the references fail to

  show certain features of applicant's invention, it is noted that the features upon

  which applicant relies (i.e., "allowing multiple users to access a single

  capsule") are not recited in the rejected claim(s). Although the claims are

  interpreted in light of the specification, limitations from the specification are not

  read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057

  (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-5 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over <u>Demsey</u> (Demsey et al., US 7,203,941) in view of Goldberg (Robert

Goldberg, US 4,253,145)

Claim 1:

<u>Demsey</u> discloses a method for virtualizing access to native resources, the

method comprising the steps of:

- (a)receiving a request to access a native resource from a process executing

  in the context of an isolation environment including an application isolation

  layer (managed code portion) and a user isolation layer (user code), the

  request including a virtual name for the native resource (see for example,

  Fig.3, step 300, "Application Executing In Virtual Machine makes A Request

  in Managed Code For Native Resource Access"; also see Fig.1 User code,

  managed code portion and related text) ;

- (b)determining that a rule action of remap is associated with the virtual name

  included in the received request; forming a literal name for the native

  resource, the literal name identifying a literal native resource of the same type

  as the requested resource (see for example, Fig.1, item 108, 114 and 726

  "Operating System", "Native Resource4 Handle Table", "Resource Allocation

  and Collection Modules(s)" and related text; also see Fig.2, "Native Resource

  Handle Tables"; further see Fig.3, steps 304-310 and related text) ; and

- (c)issuing to the operating system a request to access the native resource,

  the request including the determined literal name for the native resource (see

for example, Fig.1, item 726 "Operating System", item 114 "Native Resource

Handle Table" and item 702 "hardware"; also see Fig.3, steps 312-314,

"Access for requested Native Resource...").

Demsey also discloses determining a rule action to use handler table to allocate

or reallocate (mapping) when executing application requests a native resource

(see for example, col.4, lines 11-39)

But does not explicitly disclose detailed information about a rule action of remap.

However, Goldberg in the same analogous art of supporting recursive virtual

computer system, discloses using Ø-map and f-map to map virtual resource

name and real resource name (see for example, Fig.6a and related text).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to use Goldberg's method to validate and remap

a virtual name with a real resource name. One would have been motivated to do

so to support several copies of the basic machine interface, and then different

privileged software could be run on each of the additional basic machine

interfaces simultaneously as suggested by Goldberg (see for example, col.2,

lines 37-45)

Claim 2:

Demsey and Goldberg disclose the method of claim 1, Demsey further discloses

wherein step (a) comprises receiving a request from a process executing in the

context of an isolation environment (virtual environment) to access a named

system object, the request including a virtual name for the system object (see for example, Fig.3, step 300 and related text).

Claim 3:

Demsey further discloses the method of claim 2 wherein step (c) comprises:

(c-1) determining a rule associated with the virtual name included in the received request (see for example, Fig.6, step 618, "Is Obj(i) Referenced By Applicant(k)…"); and

(c-2) using the determined rule to form a literal name for the system object that identifies a literal system object (see for example, Fig.3, steps 310-314, "Assign Name and Address for requested Native Resource To Obj(i) Entry in Native Resource Handle Table" and related text).

Claim 4:

Demsey and Goldberg disclose the method of claim 1, Demsey further discloses wherein step (a) comprises receiving a request from a process executing in the context of an isolation environment to access a file system element, the request including a virtual name for the file system element Fig.3, step 300, "Application Executing in Virtual Machine Makes A Request in Managed Code for Native Resource Access" and related text).

Claim 5:

Demsey further discloses the method of claim 4 wherein step (c) comprises:

(c-1) determining a rule associated with the virtual name included in the received

request (see for example, Fig.6, step 618, "Is Obj(i) Referenced By

Applicant(k)...");; and

(c-2) using the determined rule to form a literal name for the file system element

that identifies a literal file system element (see for example, Fig.3, steps 310-314,

"Assign Name and Address for requested Native Resource To Obj(i) Entry in

Native Resource Handle Table" and related text).

Claim 8:

Demsey and Goldberg disclose the method of claim 1, Demsey further discloses

wherein step (a) comprises receiving a request from a process executing in the

context of an isolation environment to access one of a window and a window

class, the request including one of a virtual name for the window and a virtual

name for the window class (see for example, Fig.1, item 106, "Base Class

Library" and related text).

Claim 9:

Demsey also discloses the method of claim 8 wherein step (c) comprises:

(c-1) determining a rule associated with the virtual name included in the received

request (see for example, Fig.6, step 618, "Is Obj(i) Referenced By

Applicant(k)..."); and

(c-2) using the determined rule to form a literal name for the one of a virtual

name for the window and a virtual name for the window class that identifies one

of a literal window name and a literal window class (see for example, Fig.3, steps

310-314, "Assign Name and Address for requested Native Resource To Obj(i)

Entry in Native Resource Handle Table" and related text).

Claim 10:

Demsey and Goldberg disclose the method of claim 1, Goldberg further discloses

wherein step (c) comprises:

(c-1) accessing a rules engine to determine a rule associated with the virtual

name received in the request (see for example, Fig.6a, step 601 and related

text); and

(c-2) forming a literal name for the native resource responsive to the determined

rule, the formed literal name identifying a literal native resource of the same type

as the requested resource (see for example, steps 601-611, "R is the Real

Resource" and related text) .

Claim 11:

Demsey and Goldberg disclose the method of claim 1, Demsey further discloses

the method comprising the step of receiving a handle from the operating system

identifying the accessed object (see for example, Fig.3, step 306 "Review Native

Resource Handle Tables for availability of Handle for requested Native

Resource" and related text) .

Claim 12:

Demsey further discloses the method of claim 11 further comprising the step of

transmitting the handle to the process (see for example, Fig.3, step 310, "Assign

Name and Address for Requested Native Resource to Obj(i) Entry in Native

Resource Handle Table" and related text).

Claim 13:

Demsey and Goldberg disclose the method of claim 1, Goldberg further discloses

wherein step (c) further comprises determining, by the remap rule, the literal

name of the native resource for the virtual name of the native resource (see for

example, Fig.6a and related text about "Ø-map" and "f-map").

9.   Claims 6-7 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Demsey (Demsey et al., US 7,203,941) in view of Goldberg (Robert

Goldberg, US 4,253,145) in further view of Schmidt (Brian Keith Schmidt, US

7,206,819)

Claim 6:

Demsey and Goldberg disclose the method of claim 1, Demsey further discloses

wherein step (a) comprises receiving a request from a process executing in the

context of an isolation environment to access native resource (see for example,

Fig.3, step 300, "Application Executing In Virtual Machine makes A Request in Managed Code For Native Resource Access" and related text). But does not explicitly disclose the native resource includes a registry key and the request including a virtual name for the registry key. However, Schmidt in the same analogous art of method and apparatus for providing virtual namespaces for active computing environments, discloses using virtual name (virtual namespaces) to access registry key (file system) (see for example, col.3, lines 20-30, "The underlying file system is mapped into the compute capsule in a port of the capsule called a 'virtual namespace'). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a virtual name to access native resource including file system/registry key. One would have been motivated to do so to provides a private, customizable view of shared file system as suggested by Schmidt (see for example, col.3, lines 20-22, "using the compute capsule, one embodiment of the present invention provides a private, customizable view of a shred file system...")

Claim 7:

Demsey, Goldberg and Schmidt disclose the method of claim 6, Schmidt further discloses wherein step (c) comprises:

(c-1) determining a rule associated with the virtual name included in the received request (see for example, Figure 6, step 630,"Is capsule naming a resource?" and related text); and

(c-2) using the determined rule to form a literal name for the registry key that identifies a literal registry key (see for example, Figure 6, step 640, "Use translator to translate the named resource in the personal namespace to the actual physical resource" and related text).

Claims 14-22:

Claims 14-22 are apparatus version for performing the claimed method as in claims 1-13 addressed above, wherein all claimed limitation functions have been addressed and/or set forth above and certainly a computer apparatus would need to run and/or practice such function steps disclosed by reference above. Thus, they also would have been obvious.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's arguments with respect to claims rejection have been considered but are not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Zheng Wei whose telephone number is (571)

270-1059 and Fax number is (571) 270-2059. The examiner can normally be

reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application

or proceeding should be directed to the TC 2100 Group receptionist whose

telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Z. W./
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192